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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Enrico Gerardus Albertus Linders

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EXAMINER

ROBINSON, KEITH O NEAL

ART UNIT

PAPER NUMBER

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PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b> 10/522,094	<b>Applicant(s)</b> LINDERS ET AL.	
	<b>Examiner</b> KEITH O. ROBINSON	<b>Art Unit</b> 1638	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 May 2008.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-8, 10, 11, 17-24, 27-33, 35, 41-43 and 46-54 is/are pending in the application.
- 4a) Of the above claim(s) 27-33, 35, 41-43 and 50 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-8, 10, 11, 17-24, 46-49 and 51-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \*    c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)          | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Continued Examination Under 37 CFR 1.114***

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on May 13, 2008 has been entered.
2. Applicant's cancellation of claims 9, 12-16, 25, 26, 34, 36-40, 44 and 45, withdrawal of claims 27-33, 35, 41-43 and 50 and addition of new claims 53 and 54, filed May 13, 2008, have been received and entered in full.
3. Claims 1-8, 10, 11, 17-24, 46-49 and 51-54 are under examination.

### ***Response to Arguments***

#### ***Claim Rejections - 35 USC § 112, first paragraph – Written Description***

4. Claims 1-8, 10, 11, 17-24, 46-49, 51 and 52 remain rejected and new claim 53 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The rejection is repeated for the reasons of record as set forth on

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pages 3-5 of the Office Action mailed March 6, 2008. Applicant's arguments, filed May 13, 2008, have been fully considered but are not persuasive.

5. Applicant argues that (1) an adequate written description for genetic material requires a precise definition, (2) the goal of the written description requirement is to clearly convey that an applicant has invented the subject matter which is claim, (3) to satisfy the written description requirement a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention (see page 7, last paragraph of 'Remarks' filed May 13, 2008).

6. This is not persuasive. Though the Examiner does agree with Applicant's assertion as to what constitutes an adequate written description, the Examiner maintains that Applicant has not met the adequate requirements. Regarding argument (1), there is not a precise description for the claimed genetic material. The claims are directed to a *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from a clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant. The specification teaches that there are many kinds of *B. oleracea* plants (see pages 9-10) and *B. rapa* plants (see, for example, page 1, 2nd paragraph); thus the claims do not describe the genetic material that confers the resistance to clubroot disease that would distinguish the claimed Brassica species. Regarding argument (2), the claims do not clearly convey that Applicant has invented the subject matter which is claim because the claims are broadly drawn to any *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from a

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clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant; however, the specification teaches that Applicant has only invented *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin') (see, for example, page 10, line 7 to page 11, line 6). Regarding argument (3) Applicant has only described in sufficient detail that they were in possession of *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin') (see, for example, page 10, line 7 to page 11, line 6).

7. Applicant argues that the instant specification provides written description support for the claims as the specification describes the claimed characteristics (see page 8, 1<sup>st</sup> and 2<sup>nd</sup> paragraphs of 'Remarks' filed May 13, 2008).

8. This is not persuasive. The claims are broadly drawn to any *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from a clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant; however, the specification only teaches *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin') (see, for example, page 10, line 7 to page 11, line 6).

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9. Applicant argues that it appears that the Examiner is requiring Applicant to be in possession of every embodiment that falls within the scope of the claim (see page 8, 3<sup>rd</sup> paragraph of 'Remarks' filed May 13, 2008).

10. This is not persuasive. It appears that Applicant is claiming any *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from any clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant; however, the specification teaches that Applicant has only invented *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin') (see, for example, page 10, line 7 to page 11, line 6).

11. Applicant argues that Applicant had in their possession a *B. oleracea* line that possessed the claimed characteristics, i.e., *B. oleracea* line CFL667 (see page 8, 5<sup>th</sup> paragraph to page 9, 1<sup>st</sup> paragraph of 'Remarks' filed May 13, 2008).

12. This is not persuasive. *B. oleracea* line CFL667 is not claimed in the instant claims. Instead, Applicant is claiming any *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from any clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant.

13. Applicant argues that both the written description guidelines as published by the USPTO and the case law support Applicant's position that they have met the written description requirement (see page 9, 2<sup>nd</sup> and 3<sup>rd</sup> paragraphs of 'Remarks' filed May 13, 2008).

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14. This is not persuasive. The Examiner has stated above the reasons why Applicant has not met the written description requirement. Regarding Applicant's assertion that there may be situations where one species adequately supports a genus, the Examiner does not agree with Applicant's assertion as it pertains to the instant application because the claims are broadly drawn to any *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from any clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant and the specification teaches that there are many different types of plants that are considered *B. oleracea* (see, for example, page 9); thus, it is unclear which *B. oleracea* plant Applicant is claiming.

15. Applicant argues that Applicant has provided a sufficient definition of the physical and chemical properties by describing the distinguishing characteristics of the claimed plants and states that *B. oleracea* line CFL667 provides definitive evidence that Applicant was in possession of a plant having the claimed characteristics (see page 9, last paragraph to page 10, lines 1-6 of 'Remarks' filed May 13, 2008).

16. This is not persuasive. It is noted that the features upon which Applicant relies (i.e., *B. oleracea* line CFL667) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

17. Applicant argues that methods of breeding *B. oleracea* plants are well known and thus one of skill in the art reading the specification would have readily known that

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Applicant was in possession of the claimed invention (see page 10, 1<sup>st</sup> full paragraph of May 13, 2008).

18. This is not persuasive. One of skill in the art reading the specification would have readily known that Applicant was only in possession of *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin') (see, for example, page 10, line 7 to page 11, line 6).

19. Applicant argues that they have met the written description burden and are in possession of the claimed invention because the claimed plants contain the two characteristics that are described in the specification (see page 10, last paragraph of 'Remarks' filed May 13, 2008).

20. This is not persuasive. As discussed above, Applicant has only shown possession of *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance (see, for example, page 11, lines 7-10) wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin') (see, for example, page 10, line 7 to page 11, line 6).

***Claim Rejections - 35 USC § 112, first paragraph - Enablement***

21. Claims 1-8, 10, 11, 17-24, 46-49, 51 and 52 are rejected and new claim 53 is rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese



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cabbage variety 'Parkin'), does not reasonably provide enablement for every B. oleracea plant resistant to clubroot disease, wherein the resistance is obtained from any clubroot resistant B. rapa plant and the resistance to clubroot is monogenic and dominant, as is broadly claimed. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the invention commensurate in scope with these claims.

22. *In re Wands*, 858F.2d 731, 8 USPQ2d 1400 (Fed. Cir. 1988) lists eight considerations for determining whether or not undue experimentation would be necessary to practice an invention. These factors are: the quantity of experimentation necessary, the amount of direction or guidance presented, the presence or absence of working examples of the invention, the nature of the invention, the state of the prior art, the relative skill of those in the art, the predictability or unpredictability of the art, and the breadth of the claims.

23. The quantity of experimentation necessary to make and use the claimed invention is undue because as claimed it is unclear which kind of B. oleracea plant has the claimed clubroot resistance and it is unclear from which B. rapa plant said resistance is obtained. The specification has only provided evidence of B. oleracea line CFL667 (a broccoli plant) having the claimed resistance wherein said B. oleracea plant derived its resistance from a B. rapa plant (Chinese cabbage variety 'Parkin').

24. The specification only provides guidance for making and using B. oleracea line CFL667 (a broccoli plant) having the claimed resistance wherein said B. oleracea plant derived its resistance from a B. rapa plant (Chinese cabbage variety 'Parkin').

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25. The specification only shows the presence of working examples for *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin').

26. The state of the prior art, as evidenced by page 1, 2<sup>nd</sup> paragraph of the specification, teaches that *B. rapa* and *B. oleracea* do not have the same number of chromosomes and are therefore not sexually compatible and the specification has only provided evidence of *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin'). Pages 9-10 of the specification teach that there are many different types of *B. oleracea* plants; however, it is unclear which, if any, can be crossed with Chinese cabbage to produce the claimed invention.

27. The breadth of the claims is such that the claimed invention reads on any *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from any clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant; however, the specification only teaches one skilled in the art how to make and use *B. oleracea* line CFL667 (a broccoli plant) having the claimed resistance wherein said *B. oleracea* plant derived its resistance from a *B. rapa* plant (Chinese cabbage variety 'Parkin').

28. Thus, based on the quantity of experimentation necessary to make and use the claimed invention, the lack of guidance for making and using any *B. oleracea* line except *B. oleracea* line CFL667, the presence of working examples only for *B. oleracea* line CFL667, the state of the art regarding interspecific crosses between *B. oleracea*

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and B. rapa and the breadth of the claims, it would require undue trial and error experimentation for one skilled in the art to make and use the invention as claimed.

29. Claims 10, 53 and 54 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. In claims 10 and 53, Chinese cabbage F1 hybrid 'Parkin' is essential to the claimed invention and in claim 54, a progeny or an ancestor or a plant derived from line CFL667 is essential to the claimed invention.

30. Since the above mentioned seed is essential to the claimed inventions, they must be obtainable by a repeatable method set forth in the specification or otherwise be readily available to the public. If the plant is not so obtainable or available, the requirements of 35 U.S.C. 112 may be satisfied by a deposit of the plant. The specification does not disclose a repeatable process to obtain the claimed plants and it is not apparent if the plants are readily available to the public. Thus, a deposit is required for enablement purposes. A deposit of seed of each of the claimed embodiments is considered sufficient to ensure public availability. If the deposit is made under the terms of the Budapest Treaty, then an affidavit or declaration by applicants, or a statement by an attorney of record over his or her signature and registration number, stating that the specific strain has been deposited under the Budapest Treaty and that the strain will be irrevocably and without restriction or condition released to the public upon the issuance of a patent, would satisfy the deposit requirement herein.

If the deposit has not been made under the Budapest Treaty, then in order to certify that the deposit meets the criteria set forth in 37 C.F.R. 1.801-1.809, applicants may provide assurance of compliance by an affidavit or declaration, or by a statement by an attorney of record over his or her signature and registration number, showing that

- (a) during the pendency of this application, access to the invention will be afforded to the Commissioner upon request;
- (b) all restrictions upon availability to the public will be irrevocably removed upon granting of the patent;
- (c) the deposit will be maintained in a public depository for a period of 30 years or 5 years after the last request or for the effective life of the patent, whichever is longer;
- (d) a test of the viability of the biological material at the time of deposit (see 37 C.F.R. 1.807) and,
- (e) the deposit will be replaced if it should ever become inviable.

Regarding claim 53, the specification teaches that Chinese cabbage F1 hybrid 'Parkin' is commercially available from Japan (Takii Seeds, Japan). See *Ex parte Humphreys* 24 USPQ2d 1255, 1259 (BdPatApp&Int, 1992) which teaches that the ability of others to obtain material from a third party prior to and after the filing date of an application does not establish that upon issuance of a patent on such application that such material will continue to be accessible to the public.

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31. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

32. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

33. Claims 1-5, 7, 8, 11, 17-24, 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chiang et al (Euphytica 32: 479-483, 1983), in view of Kuginuki et al (European Journal of Plant Pathology 105: 327-332, 1999), further in view of Landry et al (Genome 35(3): 409-420, 1992). The claims read on any *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from any clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant.

34. Regarding claims 1, 11, 22-24, 46 and 47, Chiang et al teach a *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from a clubroot resistant *B. napus* plant and the resistance to clubroot is monogenic and dominant (see, for example, page 482, 1st paragraph where it states, "the inheritance of resistance

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to...the clubroot pathogen is controlled by a single dominant gene...[and] the monogenic dominant inheritance found in this study indicates that this single gene is located on a chromosome in the 'a1' genome").

35. Chiang et al do not teach a clubroot resistant *B. rapa* plant.

36. Kuginuki et al teach a clubroot resistant *B. rapa* plant (see, for example, page 329, 2nd column, 2nd paragraph where it teaches that CR Ryutoku showed resistance to clubroot).

37. Regarding claims 2 and 3, Kuginuki et al teach rating Brassica plants for clubroot resistance (see, for example, page 328, 2<sup>nd</sup> column, 2<sup>nd</sup> paragraph where it teaches that plants were rated on a scale from 0 to 3, wherein 0 indicated a plant that was resistant to clubroot). It would be obvious to one of ordinary skill in the art that rating systems can vary.

38. Regarding claim 4, Chiang et al teach a *B. oleracea* plant that is a cabbage (see, for example, page 480, Figure 1). See also page 410, 1<sup>st</sup> column, last paragraph of Landry et al where it teaches cabbage.

39. Regarding claims 5, 7 and 8, Landry et al teach resistance linked to a molecular marker (see page 417, 1<sup>st</sup> column, last paragraph to 2<sup>nd</sup> column, lines 3-4, where it teaches that two markers are associated with linkage group 1 (monogenic) and that alleles of line 86-16-5 are dominant for resistance to clubroot).

40.

41. Regarding claims 17 and 18, Chiang et al teach that the inheritance to clubroot resistance is controlled by a single dominant gene (see page 482, 1<sup>st</sup> paragraph);

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therefore it would be obvious to one of ordinary skill in the art that a *B. oleracea* plant that is homozygous or heterozygous for resistance would each display resistance to clubroot.

42. Regarding claims 19 and 20, Landry et al teach inbred and hybrid *B. oleracea* plants (see, for example, page 416, Figure 5).

43. Regarding claim 21, Chiang et al teach cytoplasmic male sterile Brassica plants (see, for example, page 480, Figure 1).

44. It would have been *prima facie* obvious to one of ordinary skill in the art at the time of Applicant's invention to combine the above teachings to produce a *B. oleracea* plant resistant to clubroot disease, wherein the resistance is obtained from a clubroot resistant *B. rapa* plant and the resistance to clubroot is monogenic and dominant.

One of ordinary skill in the art would have been motivated to combine these teachings because Chiang et al teach that the successful transfer of a single dominant gene responsible for resistance to clubroot from *B. napus* to *B. oleracea* should be extremely useful in producing commercial F1 hybrids in cole crops (see page 482, last paragraph).

In addition, one of ordinary skill in the art would have reasonable expectation of success based on the success of Chiang et al in producing a *B. oleracea* plant resistant to clubroot disease wherein the resistance was obtained from a *B. napus* plant.

In *KSR International Co. v. Teleflex Inc.* (KSR), 550 U.S. \_\_\_, 82 USPQ2d 1385 (2007), the Supreme Court particularly emphasized "the need for caution in granting a patent based on the combination of elements found in the prior art." It states "[t]he

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combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”*Id.* at \_\_\_, 82 USPQ2d at 1395.

The Supreme Court further stated that:

“When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. *Id.* at \_\_\_, 82 USPQ2d at 1396.

See also *United States v. Adams*, . . . [t]he Court recognized that when a patent claims a structure already known in the prior art that is altered by the mere substitution of one element for another known in the field, the combination must do more than yield a predictable result.” *Id.* at \_\_\_, 82 USPQ2d at 1395”; *Ex parte Kubin*, 83 USPQ2d 1410 (*Bd. Pat. App. & Int.* 2007); and *Ex parte Smith*...USPQ2d-at 20 (*Bd. Pat. App & Interf.* June 25, 2007) (citing *KRS*, 82 USPQ2d at 1396) (available at <http://www.uspto.gov/web/offices/dcom/bpai/prec/fd071925.pdf>).

### ***Conclusion***

No claims are allowed.

### ***Contact Information***



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Any inquiry concerning this communication or earlier communications from the examiner should be directed to KEITH O. ROBINSON whose telephone number is (571)272-2918. The examiner can normally be reached Monday – Friday, 7:30 a.m. - 4:30 p.m. EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached at (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Keith O. Robinson, Ph.D.  
Examiner  
Art Unit 1638

/Medina A Ibrahim/  
Primary Examiner, Art Unit 1638

August 13, 2008